KENWOOD

AUDIO VIDEO SURROUND RECEIVER

VR-8060

INSTRUCTION MANUAL

KENWOOD CORPORATION

About the supplied remote control

Compared to standard remote controls, the remote control supplied with this receiver has several operation modes. These modes enable the remote control to control other audio/video components. In order to effectively use the remote control it is important to read the operating instructions and obtain a proper understanding of the remote control and how to switch its operation modes (etc.).
Using the remote control without completely understanding its design and how to switch the operation modes may result in incorrect operations.

For the U.S.A.

Register Online

Register your Kenwood Home Audio product at www.kenwoodusa.com

Plus opt in to receive e-mail updates and other offers when you register at our web site.

B60-5470-00 00 (MA) (K, P) [FE] 0404

Before applying the power

⚠ **Caution : Read this page carefully to ensure safe operation.**

Units are designed for operation as follows.

U.S.A. and Canada ..... AC 120 V only
Australia ..... AC 240 V only
Europe and U.K ..... AC 230 V only
China and Russia ..... AC 220 V only
Other countries ..... AC 110-120 / 220-240 V switchable

Maintenance of the unit

When the front panel or case becomes dirty, wipe with a soft, dry cloth. Do not use thinner, benzine, alcohol, etc. for these agents may cause discoloration.

In regard to contact cleaner

Do not use contact cleaners because it could cause a malfunction. Be specially careful not to use contact cleaners containing oil, for they may deform the plastic component.

Safety precautions

WARNING :
TO PREVENT FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

THE LIGHTNING FLASH WITH ARROWHEAD SYMBOL, WITHIN AN EQUILATERAL TRIANGLE, IS INTENDED TO ALERT THE USER TO THE PRESENCE OF UNINSULATED "DANGEROUS VOLTAGE" WITHIN THE PRODUCT'S ENCLOSURE THAT MAY BE OF SUFFICIENT MAGNITUDE TO CONSTITUTE A RISK OF ELECTRIC SHOCK TO PERSONS.

THE EXCLAMATION POINT WITHIN AN EQUILATERAL TRIANGLE IS INTENDED TO ALERT THE USER TO THE PRESENCE OF IMPORTANT OPERATING AND MAINTENANCE (SERVICING) INSTRUCTIONS IN THE LITERATURE ACCOMPANYING THE APPLIANCE.

How to use this manual

This manual is divided into four sections, Preparations, Operations, Remote Control, and Additional Information.

Preparations

Shows you how to connect your audio and video components to the receiver and prepare the surround processor.
Since this receiver works with all your audio and video components, we will guide you in setting up your system to be as easy as possible.

Operations

Shows you how to operate the various functions available on the receiver.

Remote Control

Shows you how to operate other components using the remote control, as well as a detailed explanation of all remote control operations. Once you have registered your components with the proper setup codes, you'll be able to operate both this receiver and your other AV components (TV, VCR, DVD player, CD player, etc.) using the remote control supplied with this receiver.

Additional Information

Shows you additional information such as "In case of difficulty" (troubleshooting) and "Specifications".

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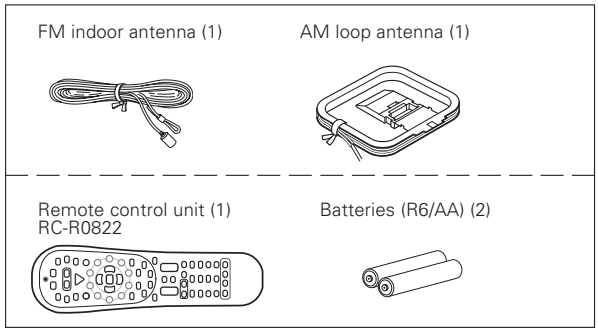
Unpacking

Unpack the unit carefully and make sure that all accessories are present.



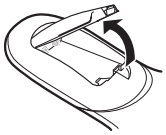
If any accessories are missing, or if the unit is damaged or fails to operate, notify your dealer immediately. If the unit was shipped to you directly, notify your shipper immediately. Kenwood recommends that you retain the original carton and packing materials in case you need to move or ship the unit in the future.

Keep this manual handy for future reference.

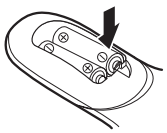
Preparing the remote control

Loading the batteries

❶ **Remove the cover.**



❷ **Insert the batteries.**

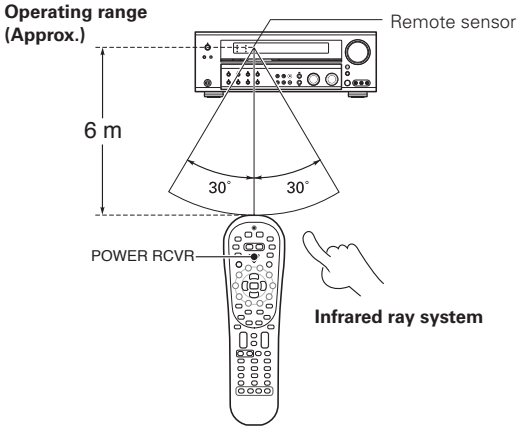


❸ **Close the cover.**

- Insert two AA-size (R6) batteries as indicated by the polarity markings.

Operation

When the **STANDBY** indicator is lit, the power turns ON when you press the **POWER RCVR** key on the remote control. When the power comes ON, press the key you want to operate.



- When pressing more than one remote control key successively, press the keys securely by leaving an interval of 1 second or more between keys.

Notes

1. The supplied batteries may have shorter lives than ordinary batteries due to use during operation checks.
2. When the remote-controllable distance gets shorter than before, replace both batteries with new ones.
3. Placing the remote sensor in direct sunlight, or in direct light from a high frequency fluorescent lamp may cause a malfunction.
   In such a case, change the location of the system installation to prevent malfunction.

For the U.S.A.

FCC WARNING

This equipment may generate or use radio frequency energy. Changes or modifications to this equipment may cause harmful interference unless the modifications are expressly approved in the instruction manual. The user could lose the authority to operate this equipment if an unauthorized change or modification is made.

NOTE:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment may cause harmful interference to radio communications, if it is not installed and used in accordance with the instructions. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

– – Reorient or relocate the receiving antenna.
– – Increase the separation between the equipment and receiver.
– – Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
– – Consult the dealer or an experienced radio / TV technician for help.

For the U.S.A.

Note to CATV system installer

This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

As an ENERGY STAR® Partner, Kenwood Corporation has determined that this product meets the ENERGY STAR® guidelines for energy efficiency. This product can save energy. Saving energy reduces air pollution and lowers utility bills.

Special features

True home theater sound

This receiver incorporates a wide variety of surround modes to bring you maximum enjoyment from your video software. Select a surround mode according to your equipment or the software you are going to play and enjoy! →26

Dolby Digital and Dolby Digital EX

The DOLBY DIGITAL mode lets you enjoy full digital surround from software processed in the Dolby Digital format. Dolby Digital provides up to 5.1 channels of independent digital audio for better sound quality and more powerful presence than conventional Dolby Surround. As for Dolby Digital EX, it creates six full-bandwidth output channels from the 5.1 channel sources. This is done using a matrix decoder that derives three surround channels from the two in the original recording. For best results, Dolby Digital EX should be used with movie soundtracks recorded with Dolby Digital Surround EX.

Dolby PRO LOGIC IIx and Dolby PRO LOGIC II

DOLBY PRO LOGIC II, whilst totally compatible with its predecessor PRO LOGIC, provides greater advantages in surround sound. It allows user to enjoy the conventional stereo or Dolby Surround with a convincing "5.1 like" presentation. PRO LOGIC II offers special features for controlling the overall spatial, dimensionality and frontal sound field imaging. PRO LOGIC II produces an impressive surround sound from video software marked DOLBY SURROUND and three-dimensional space from music CD. When listening to music, you will be able to enjoy the experience of sheer STEREO surround sound.
DOLBY PRO LOGIC IIx enhanced DOLBY PRO LOGIC II's features. It creates 6.1 channel and 7.1 channel surround sound from stereo or 5.1 channel signals. This feature provides you an astonishing ambience effect which makes you feel you are surrounded by natural sound. Especially 7.1 channel surround sound can produce real back sound from Surround Back speakers.

DTS and DTS-ES

DTS (Digital Theater System) is a 5.1 channel digital audio format that provides five full spectrum channels and one low-frequency (subwoofer) channel for unprecedented clarity, optimum channel separation and a (wide) dynamic range.
DTS-ES (Extended Surround) presents 6.1 channels surround system with additional Surround Back channel which evolved from the conventional 5.1 channels surround system. DTS-ES format that was recorded in DVD, CD or LD comprises of two modes. DTS-ES Discrete 6.1 produce the discrete surround back which is completely independent and DTS-ES Matrix 6.1 produces the surround back which synthesised within the left and right surround channels using matrix technology. DTS-ES has perfect compatibility with the conventional 5.1 channels surround system. 6.1 channels surround with an additional surround back presents a more natural presence and surround effects by increasing the impression of the sound image from back.
Important:
When a DTS disc is played on a CD, LD or DVD player, noise may be output from the analog output. It is recommended that you connect the digital output of the player to the digital input of this unit.

DTS 96/24

DTS 96/24 made it possible to achieve a wide frequency range of over 40 kHz by increasing the sampling frequency to 96 or 88.2 kHz. Moreover, DTS 96/24's ability of 24 bit resolution offers the same frequency band and dynamic range as 96 kHz/24 bit PCM.
DTS 96/24 is, as with conventional DTS Surround, compatible with multi-channels. Therefore, sources recorded using DTS 96/24 technologies can be played in high sampling frequency, multi-channel audio with ordinary DVDs and CDs.

Neo:6

Neo:6 is a new technology which was developed by DTS. It can produce high grade 6 channels surround with an astonishing fidelity from 2 channels content. Neo:6 has 2 mode, "CINEMA" mode is for movie playback and "MUSIC" mode is for music playback.

DSP surround modes

The DSP (Digital Signal Processor) used for this receiver incorporates a variety of high quality adjustable sound fields, like "ARENA", "JAZZ CLUB", "THEATER", "STADIUM" and "DISCO". It is compatible with almost any kind of program source.

DVD 6-channel input

If you own a DVD player equipped with 6-channel output, this receiver allows you to obtain the full surround sound impact of DVD source material featuring multi-channel encoding. Since the source signals are digital and each channel is input independently, the resulting ambience is far superior to what can be achieved with conventional surround sound systems.

ACTIVE EQ

ACTIVE EQ mode will produce a more dynamic sound quality in any condition. You can enjoy a more impressive sound effect when ACTIVE EQ is turned on.

SPEAKER EQ

SPEAKER EQ function is to adjust the receiver's audio output characteristics with the speakers' characteristics which differs depending on the size of the speakers. When activating the SPEAKER EQ function, you will be able to enjoy a more natural and dynamic sound experience even with small size speakers.

Universal IR (InfraRed) remote control

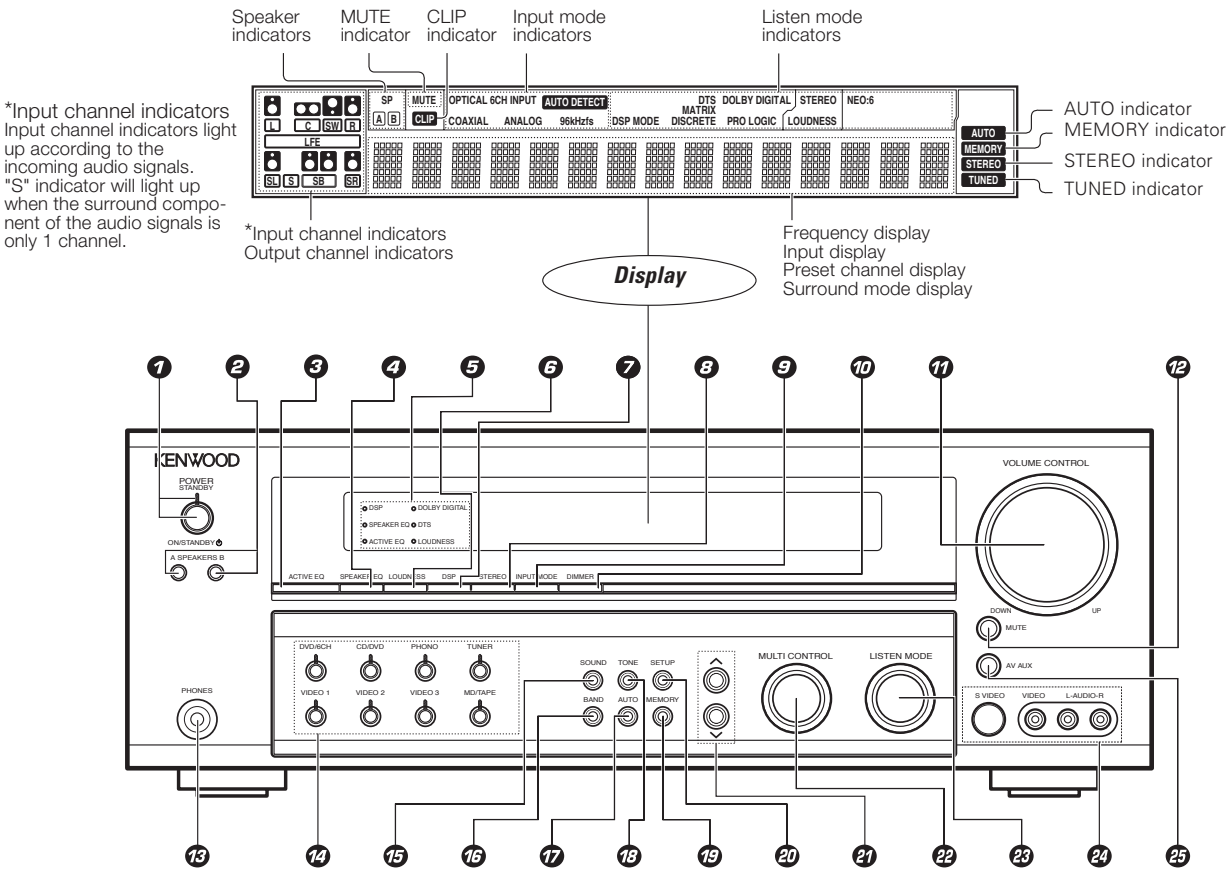
In addition to the basic receiver, the remote control supplied with this receiver can also operate almost all of your remote controllable audio and video components. Just follow the simple setup procedure to register the components you have connected.

Video up conversion

This receiver can convert the incoming composit video signals to S-Video signal.
If your monitor TV has S-Video jacks, it is not necessary to do the composit video connections, just use an S-Video cord to connect the receiver and your monitor TV.

Names and functions of parts

Main unit



❶ **POWER ON/STANDBY ⏻ key** →17
Use to turn the power ON/STANDBY.
STANDBY indicator

❷ **A SPEAKERS B keys** →20
Use to turn the A/B speakers on or off.

❸ **ACTIVE EQ key** →21
Use to select ACTIVE EQ's setting.

❹ **SPEAKER EQ key** →21
Use to select SPEAKER EQ's setting.

❺ **Surround LED (lighting-emitting diode) indicators**
DSP mode LED indicator →29
Lights when the receiver is in the DSP mode.
SPEAKER EQ mode LED indicator →22
Lights when the receiver is in the SPEAKER EQ mode.
ACTIVE EQ mode LED indicator →22
Lights when the receiver is in the ACTIVE EQ mode.
DOLBY DIGITAL mode LED indicator →29
Lights when the receiver is in the Dolby Digital mode.
DTS mode LED indicator →29
Lights when the receiver is in the DTS mode.
LOUDNESS LED indicator →21
Lights when the LOUDNESS is ON.

❻ **LOUDNESS key** →21
Use to switch the status of LOUDNESS.

❼ **DSP key** →28
Use to select any of the DSP mode.

❽ **STEREO key** →30
Use to switch the listen mode to STEREO.

❾ **INPUT MODE key** →8
Use to switch between the full auto, digital and analog inputs.

❿ **DIMMER key**
Use to select the REC MODE. →23
Use to adjust the brightness of the display. →30

⓫ **VOLUME CONTROL knob** →20

⓬ **MUTE key** →21
Use to temporarily mute the sound.

⓭ **PHONES jack** →22
Use for headphone listening.

⓮ **Input Selector keys** →20
(DVD/6CH, CD/DVD, PHONO, TUNER, VIDEO 1, VIDEO 2, VIDEO 3, MD/TAPE)
Use to select input sources.

⓯ **SOUND key** →30
Use to adjust the sound quality and the ambience effects.

⓰ **BAND key** →24
Use to select the broadcast band.

⓱ **AUTO key** →24
Use to select the auto or manual tuning mode.

⓲ **TONE key** →21
Use to switch the status of TONE control.

⓳ **MEMORY key** →24
Use to store radio stations in the preset memory.

⓴ **SETUP key** →17
Use to select the speakers' settings etc.

㉑ **∧/∨ keys** →17
Use for selection adjustments during sound, set up and preset channel functions.

㉒ **MULTI CONTROL knob** →17
Use to control a variety of settings.

㉓ **LISTEN MODE knob** →28
Use to select the listening mode.

㉔ **AV AUX (S VIDEO, VIDEO, L-AUDIO-R) jacks** →16

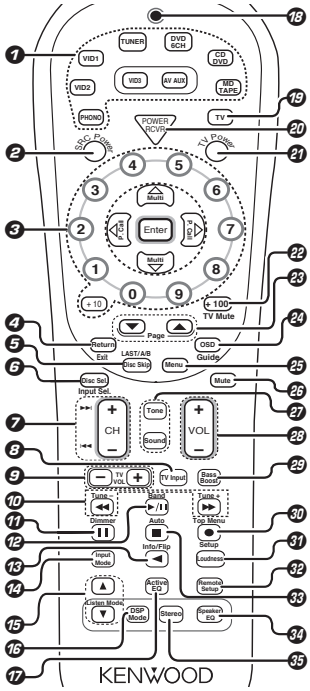
㉕ **AV AUX key** →16
Use to switch the input to AV AUX.

Standby mode

While the standby indicator is lit, a small amount of power is supplied to the system to back up the memory. This is called standby mode. Under the condition, the system can be turned ON by remote control unit.

Remote control unit

This remote control unit can be use not only for Kenwood products but also for other non-Kenwood products by setting the appropriate manufacturer's setup codes. →35



If the name of a function is different on the receiver and on the remote control, the name of the remote control key in this manual is indicated in parentheses.

❶ **Source keys (MD/TAPE, CD/DVD, DVD/6CH, TUNER, VID1, VID2, VID3, AV AUX, PHONO)**
When press and hold for more than 3 seconds, they are used to select the registered components. →33
Input Selector keys (MD/TAPE, CD/DVD, DVD/6CH, TUNER, VID1, VID2, VID3, AV AUX, PHONO)
When press and release in less than 3 seconds, they are used to select the input sources. →20

❷ **SRC (source) Power key**
Use to turn the other source components on or off.

❸ **Numeric keys** →25
Provide functions identical to those of the original remote control supplied with the component you are controlling.
Multi (multi control) △/▽ keys →17
Use to control a variety of settings.
Use to operate other components.
P.Call ◁/▷ keys →25
Use for selection adjustments during sound, set up and preset channel functions.
Enter key
Use to operate other components.

❹ **Return key**
Use to operate the DVD component.
Exit key
Use to operate other components.

❺ **Disc Skip key**
If CD is selected as the input source, this key functions as the multi-CD player disc skip key.
LAST/A/B key
If TAPE is selected as the input source, this is A and B deck of a double cassette deck.
Use to operate other components.

❻ **Disc Sel. key**
Use to operate other components.
Input Sel. key
Use to operate other components.

❼ **CH +/– keys**
Use to select the channels.
►►I / I◄◄ keys
If CD, MD and DVD is selected as the input source, these keys function as skip keys.

❽ **TV Input key**
Use when in TV operation.

❾ **TV VOL +/– keys**
Use to adjust the TV's volume.

❿ **◄◄/►► keys**
If CD, MD or Tape is selected as the input source, this key functions as search keys.
Tune –/+ keys →24
Use to operate the tuner mode.

⓫ **II key**
Use to operate other components.
Dimmer key →30
Use to adjust the brightness of the display.

⓬ **►/II key**
If CD is selected as the input source, this key functions as the play/pause key.
If MD or TAPE key is selected as input source, this key functions as the play key.
Band key →24
Use to select the broadcast band.

⓭ **◄ key**
If Tape is selected, this key functions as reverse play key.
Info/Flip key
Use to operate other components.

⓮ **Input Mode key** →8
Use to switch between the full auto, digital and analog inputs.

⓯ **Listen Mode ▲/▼ keys** →28
Use to select the listening mode.

⓰ **DSP Mode key** →28
Use to select any of the DSP mode.

⓱ **Active EQ key** →21
Use to select ACTIVE EQ's setting.

⓲ **LED (lighting-emitting diode) indicator**
Blinks to show that signals are being transmitted.

⓳ **TV key**
Use to select the TV equipment.

⓴ **POWER RCVR (receiver) key** →17
Use to turn the receiver on or off.

㉑ **TV Power key**
Use to turn the TV on or off.

㉒ **+100 key**
Use to select the disc number with the multi-CD player.
TV mute key
Use to temporarily mute the TV sound.

㉓ **Page ▲/▼ keys**
Use to operate other components.

㉔ **OSD (on screen display) key**
Use to operate the DVD component.
Guide key
Use to operate other components.

㉕ **Menu key**
Use to operate other components.

㉖ **Mute key** →21
Use to temporarily mute the sound.

㉗ **Tone key** →21
Use to switch the status of TONE control.
Sound key →30
Use to adjust the sound quality and the ambience effects.

㉘ **VOL +/– keys** →20
Use to adjust the receiver's volume.

㉙ **Bass Boost key** →21
Use to select the maximum adjustment setting for the low frequency range.

㉚ **● key**
If VCR is selected, this key functions as record key when it pressed twice sequentially.
When in MD or Tape is selected, this key functions as record key.
Top Menu key
Use to operate the DVD component.
Setup key →17
Use to select the speakers' settings etc.

㉛ **Loudness key** →21
Use to switch the status of LOUDNESS.

㉜ **Remote Setup key** →33
Use to register other components.

㉝ **■ key**
If CD, MD, or TAPE is selected as the input source, this key functions as the stop key.
Auto key →24
Use to select the auto or manual tuning mode.

㉞ **Speaker EQ key** →21
Use to select SPEAKER EQ's setting.

㉟ **Stereo key** →30
Use to switch the listen mode to STEREO.

Setting up the system

Make connections as shown in the following pages.
When connecting the related system components, be sure to refer to the instruction manuals supplied with the components you are connecting.
Do not connect the power cord to a wall outlet until all connections are completed.

Notes
1. Be sure to insert all connection cords securely. If their connections are imperfect, sound may not be produced or there will be noise inference.
2. Be sure to remove the power cord from the AC outlet before plugging or unplugging any connection cords. Plugging/unplugging connection cords without disconnecting the power cord can cause malfunctions and may damage the unit.
3. Do not connect power cords from components whose power consumption is larger than what is indicated on the AC outlet at the rear of this unit.

Analog connections

Audio connections are made using RCA pin cords. These cables transfer stereo audio signal in an "analog" form. This means the audio signal corresponds to the actual audio of two channels. These cables usually have 2 plugs on each end, one red for the right channel and one white for the left channel. These cables are usually packed together with the source unit, or are available at your local electronics retailer.

Microcomputer malfunction

If operation is not possible or an erroneous display appears, even though all connections have been made properly, reset the microcomputer referring to "In case of difficulty". →42

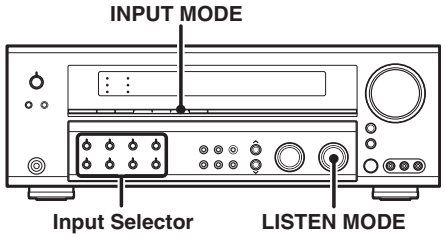
Memory back up function

Please note that the following items will be deleted from the unit's memory if the power cord is disconnected from the AC outlet for approximately 1 day.

- Power mode
- Input selector settings
- Picture output
- Speaker ON/OFF
- Volume level
- BASS, TREBLE, INPUT level
- TONE ON/OFF
- LOUDNESS ON/OFF
- Dimmer level
- MD/TAPE settings
- Listen mode setting
- Speaker settings
- Distance setting
- Input mode setting
- Sound mode settings
- Broadcast band
- Frequency setting
- Preset stations
- Tuning mode
- ACTIVE EQ mode
- SPEAKER EQ mode

Input mode settings

CD/DVD, VIDEO 2, VIDEO 3 and **DVD/6CH** inputs each include jacks for digital audio input and analog audio input.
The initial factory settings for audio signal playback for CD/DVD, DVD/6CH, VIDEO 2 and VIDEO 3 are full auto.
After completing connections and turning on the receiver, follow the steps below.



❶ **Use the Input Selector keys to select CD/DVD, VIDEO 2, VIDEO 3 or DVD/6CH.**

❷ **Press the INPUT MODE key.**

Each press switches the setting as follows:

In DTS play mode
- ① **FULL AUTO** (digital input, analog input)
- ② **DIGITAL MANUAL** (digital input)

In CD/DVD, VIDEO 2, VIDEO 3 or DVD/6CH play mode
- ① **FULL AUTO** (digital input, analog input)
- ② **DIGITAL MANUAL** (digital input)
- ③ **6CH INPUT** (DVD/6CH input)
- ④ **ANALOG** (analog input)

Digital input:
Select this setting to play digital signals from a DVD, CD, or LD player.

Analog input:
Select this setting to play analog signals from a cassette deck, VCR, or record player.

Auto detect:
In "**FULL AUTO**" mode (**AUTO DETECT** indicator light up), the receiver detects the digital or analog input signals automatically. Priority is given to digital signal during input mode selection. The receiver will select the input mode and listening mode automatically during playback to match the type of input signal (Dolby Digital, PCM, DTS) and the speaker setting. The OPTICAL and COAXIAL indicator on the display will light up when digital signal is detected. If the input signal is analog, the ANALOG indicator will light up.
To keep the receiver set to the currently selected listening mode, use the **INPUT MODE** key to select "**DIGITAL MANUAL**" (manual sound). However, even when this setting is selected, there may be cases in which the listening mode is selected automatically to match a Dolby Digital source signal depending on the combination of listening mode and source signal.
At DIGITAL MANUAL, if the audio reproduction stops in the middle due to change in the input signals, etc. press the LISTEN MODE Knob.
If the **INPUT MODE** key is pressed quickly, sound may not be produced. Press the **INPUT MODE** key again.

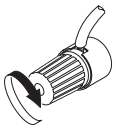
Connecting the terminals

❶ **Strip coating.**

❷ **Loosen.**

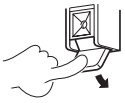
❸ **Insert.**

❹ **Secure.**

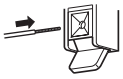


❶ **Strip coating.**

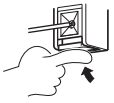
❷ **Push the lever.**



❸ **Insert the cord.**



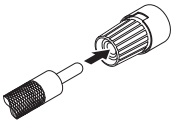
❹ **Return the lever.**



Connection of banana plugs

❶ **Secure.**

❷ **Insert.**



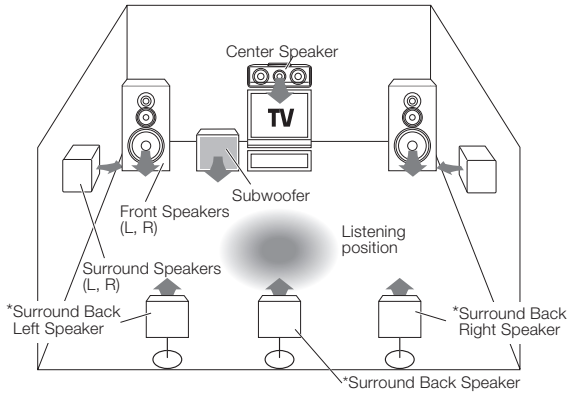
• Sound will not be heard if the speaker terminal is not fully secured.

• Never short circuit the + and – speaker cords.
• If the left and right speakers are connected inversely or the speaker cords are connected with reversed polarity, the sound will be unnatural with ambiguous acoustic imaging. Be sure to connect the speakers correctly.

Speaker impedance

After confirming the speaker impedance indications printed on the rear panel of the receiver, connect speakers with matching impedance ratings. Using speakers with a rated impedance other than that indicated on the rear panel of the receiver could result in malfunctions or damage to the speakers or receiver.

Speaker placement

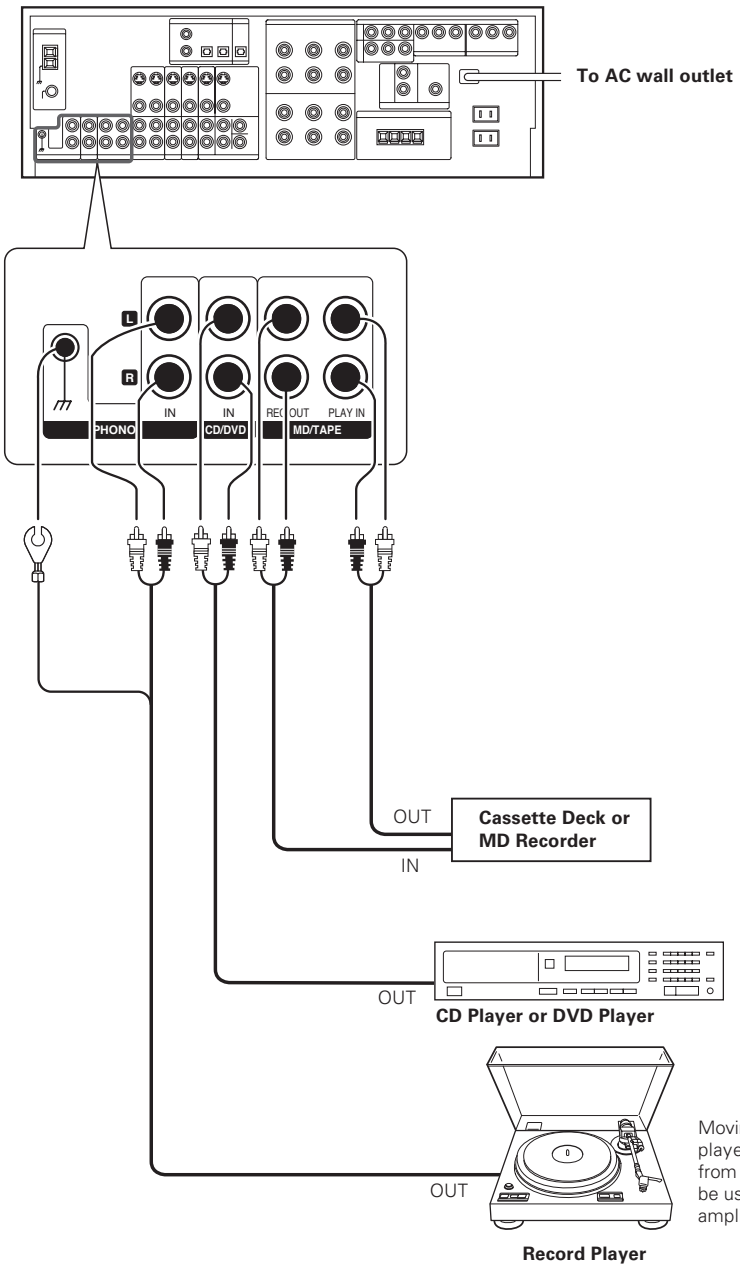


*For Surround Back speaker, you may place either two Surround Back speakers (Surround Back Left Speaker and Surround Back Right Speaker) for 7.1 channel surround sound system or one Surround Back Speaker for 6.1 channel surround sound system.

Front (Left and Right) Speakers
Place at the front left and right of the listening position. Front Speakers are required for all surround modes.
Center Speaker
Place front and center. This speaker stabilizes the sound image and helps recreate sound motion. Required for surround playback.
Surround (Left and Right) Speakers
Place at the direct left and right, or slightly behind, the listening position at even heights, approximately 1 meter above the ears of the listeners. These speakers recreate sound motion and atmosphere. Required for surround playback.
Subwoofer
Reproduces powerful deep bass sounds.
Surround Back Speaker/s
Place the speaker/s directly at the rear of the listening position. The optimum position depends mainly on the room condition.

• Although the ideal surround system consists of all the speakers listed above, if you don't have a Center speaker or a Subwoofer, you can divide those signals between the available speakers in the speaker settings steps to obtain the best possible surround reproduction from the speakers you have available. →17

Connecting audio components



Moving coil (MC) cartridge record player cannot be used directly from the receiver unit. It can only be used when another equalizer amplifier is connected.

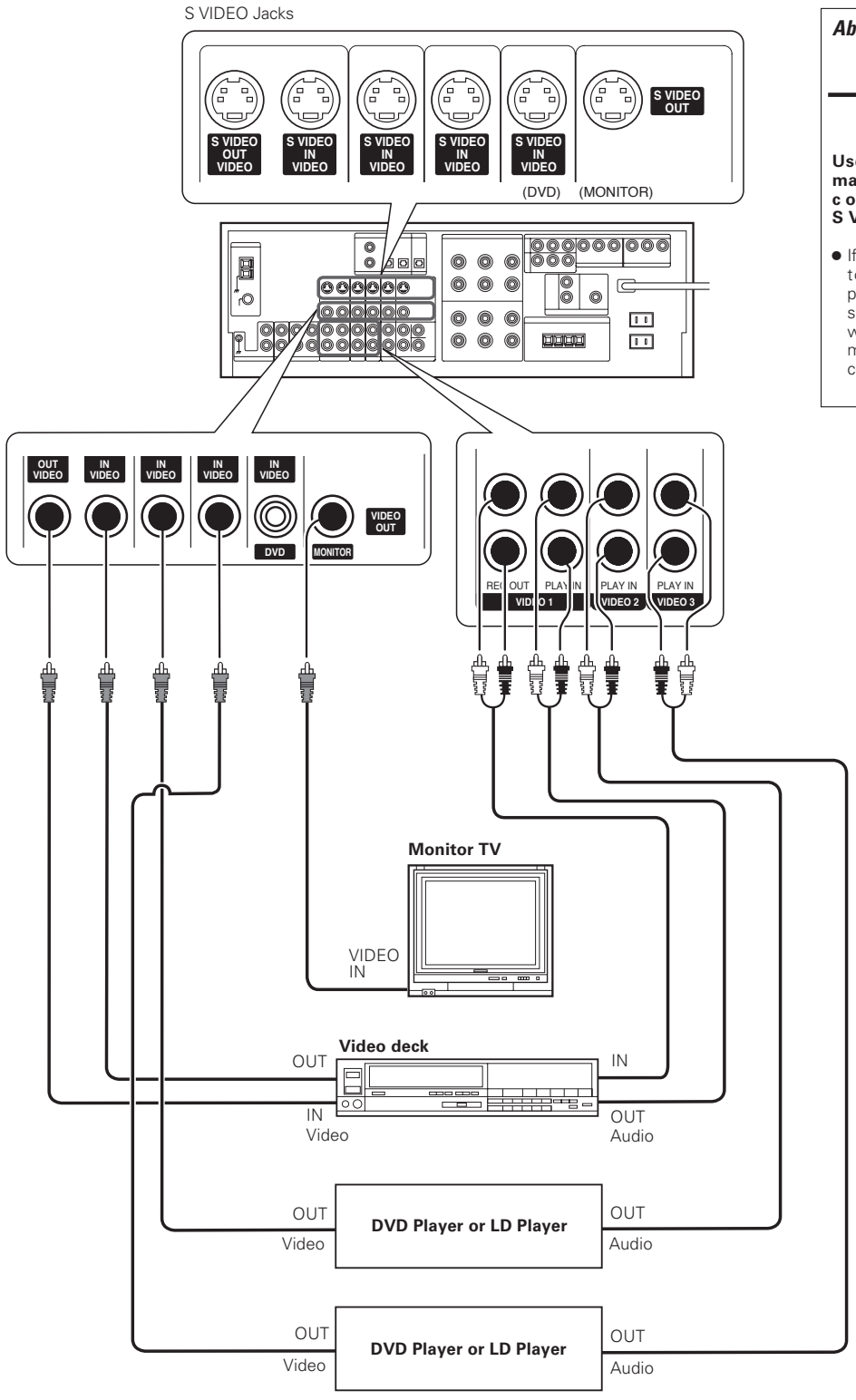
CAUTION

Be sure to adhere to the following, or proper ventilation will be blocked causing damage or fire hazard.

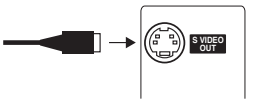
- Do not place any object impairing heat radiation onto the top of the unit.
- Leave a space around the unit (from the largest outside dimension including projection) equal or greater than, shown below.

Top panel : 50 cm **Side panel : 10 cm** **Back panel : 10 cm**

Connecting video components



About the S VIDEO Jacks



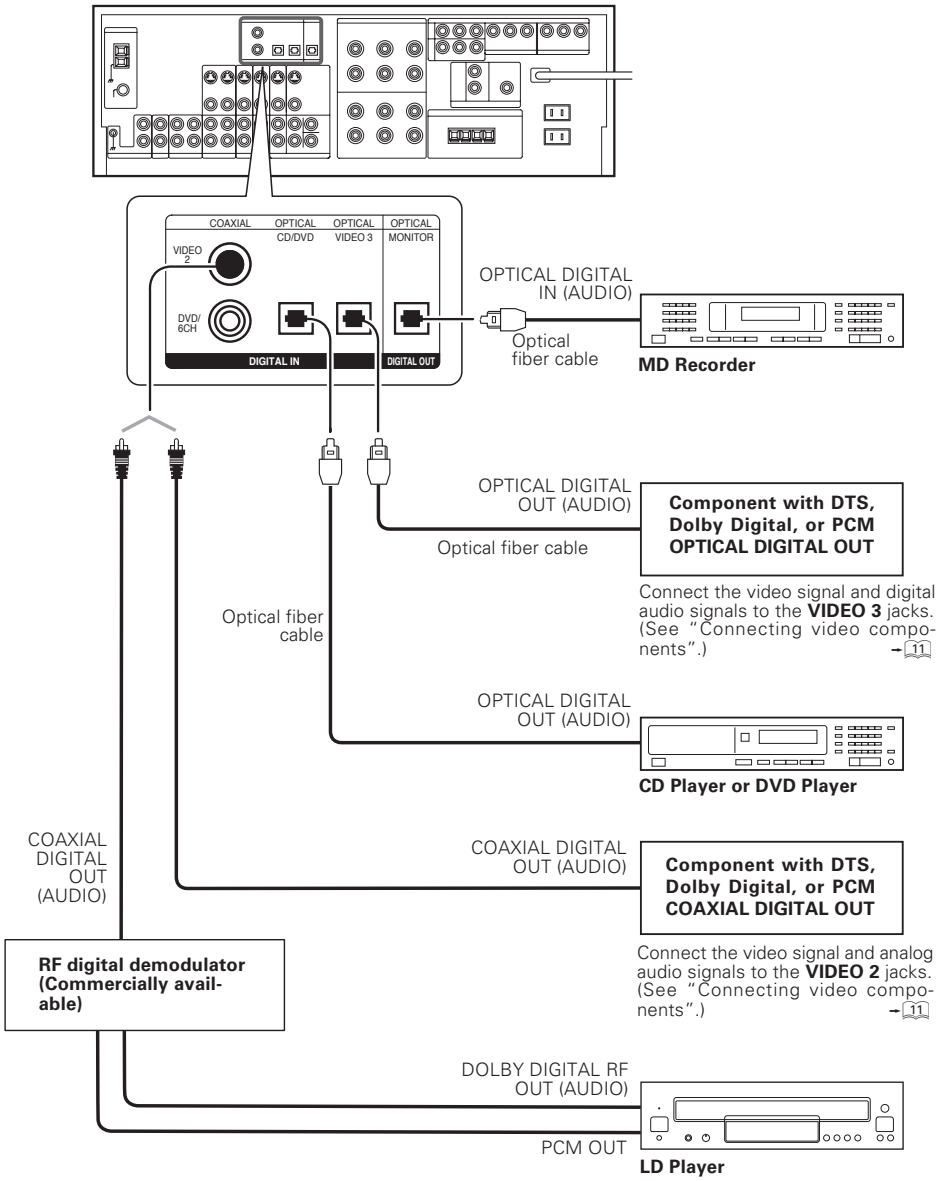
Use the S VIDEO Jacks to make connections to video components with S VIDEO IN/OUT Jacks.

- If you use the **S VIDEO** jacks to connect your video playback components, be sure to use the **S VIDEO** jacks when connecting your monitor and video recording components.

A video component with digital audio outputs should be connected to the VIDEO 2 or VIDEO 3 jacks.

Digital connections

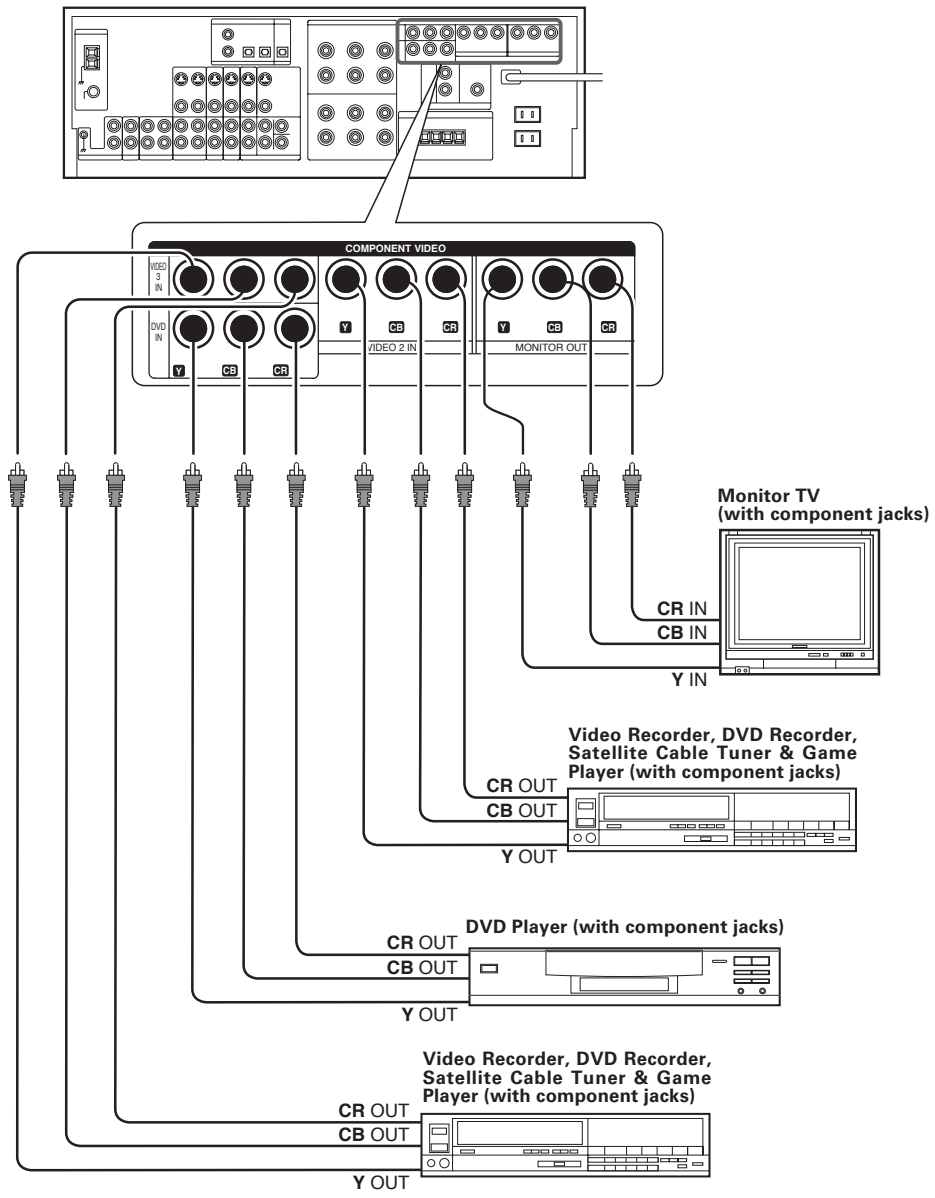
The digital in jacks can accept DTS, Dolby Digital, or PCM signals. Connect components capable of outputting DTS, Dolby Digital, or standard PCM (CD) format digital signals.
If you have connected any digital components to the receiver, be sure to read the "Input mode settings" section carefully. →8


COAXIAL
OPTICAL CD/DVD
OPTICAL VIDEO 3
OPTICAL MONITOR
VIDEO 2
DVD/ 6CH
DIGITAL IN
DIGITAL OUT
OPTICAL DIGITAL IN (AUDIO)
Optical fiber cable
MD Recorder
OPTICAL DIGITAL OUT (AUDIO)
Optical fiber cable
Component with DTS, Dolby Digital, or PCM OPTICAL DIGITAL OUT
Connect the video signal and digital audio signals to the VIDEO 3 jacks. (See "Connecting video components".) →11
Optical fiber cable
OPTICAL DIGITAL OUT (AUDIO)
CD Player or DVD Player
COAXIAL DIGITAL OUT (AUDIO)
COAXIAL DIGITAL OUT (AUDIO)
Component with DTS, Dolby Digital, or PCM COAXIAL DIGITAL OUT
Connect the video signal and analog audio signals to the VIDEO 2 jacks. (See "Connecting video components".) →11
RF digital demodulator (Commercially available)
DOLBY DIGITAL RF OUT (AUDIO)
PCM OUT
LD Player

To connect an LD player with a DIGITAL RF OUT, connect the LD player to the RF digital demodulator (Commercially available). Next, connect the DIGITAL OUT jacks of the demodulator to the DIGITAL IN jacks of the receiver. Connect the video signal and analog audio signals to the VIDEO 2 or VIDEO 3 jacks. (See "Connecting video components".)

Connecting video components (COMPONENT VIDEO)

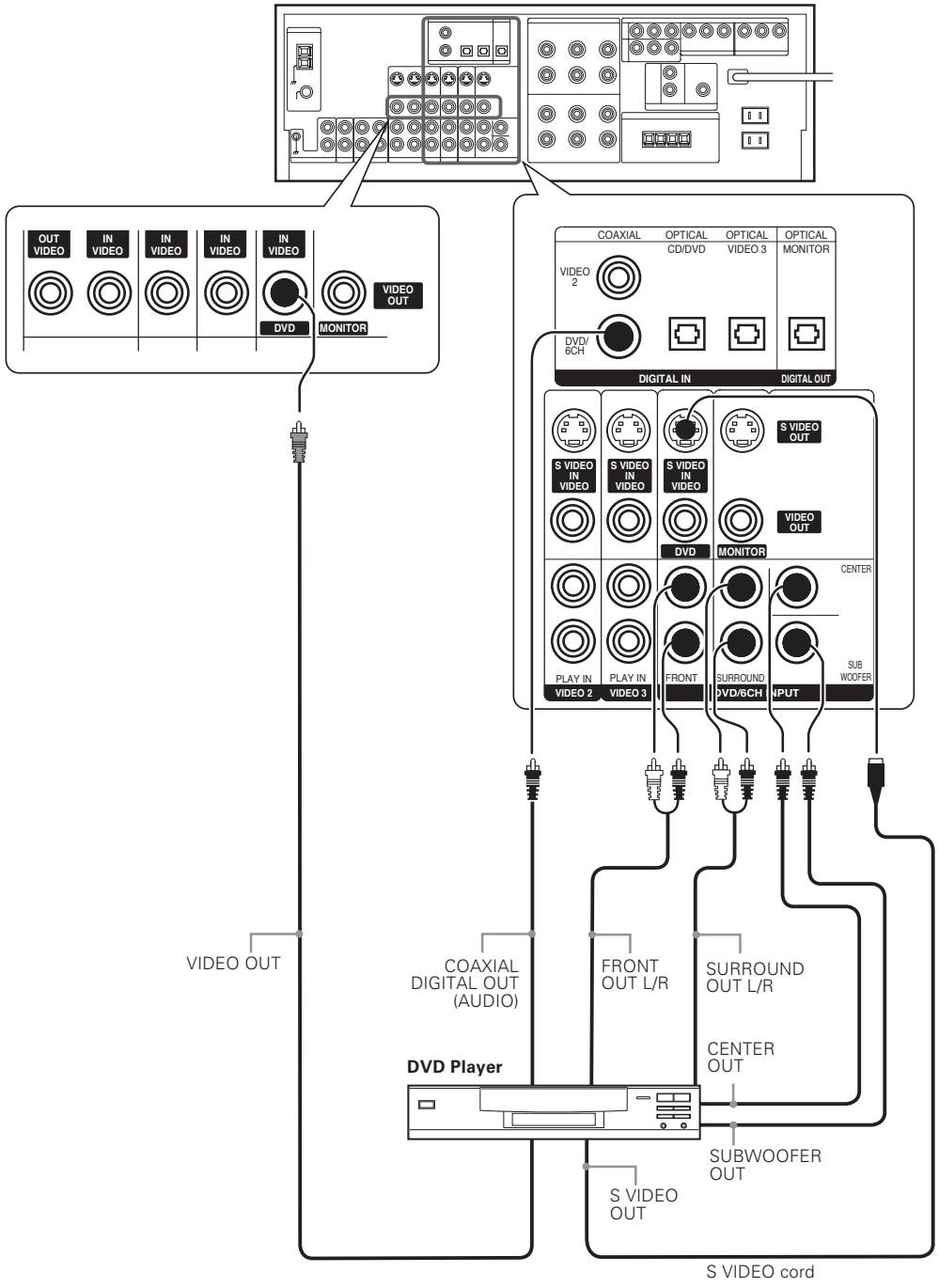
If you have connected the receiver to a video component with COMPONENT jacks, you can get a better picture quality than by connecting to the S-VIDEO jacks.



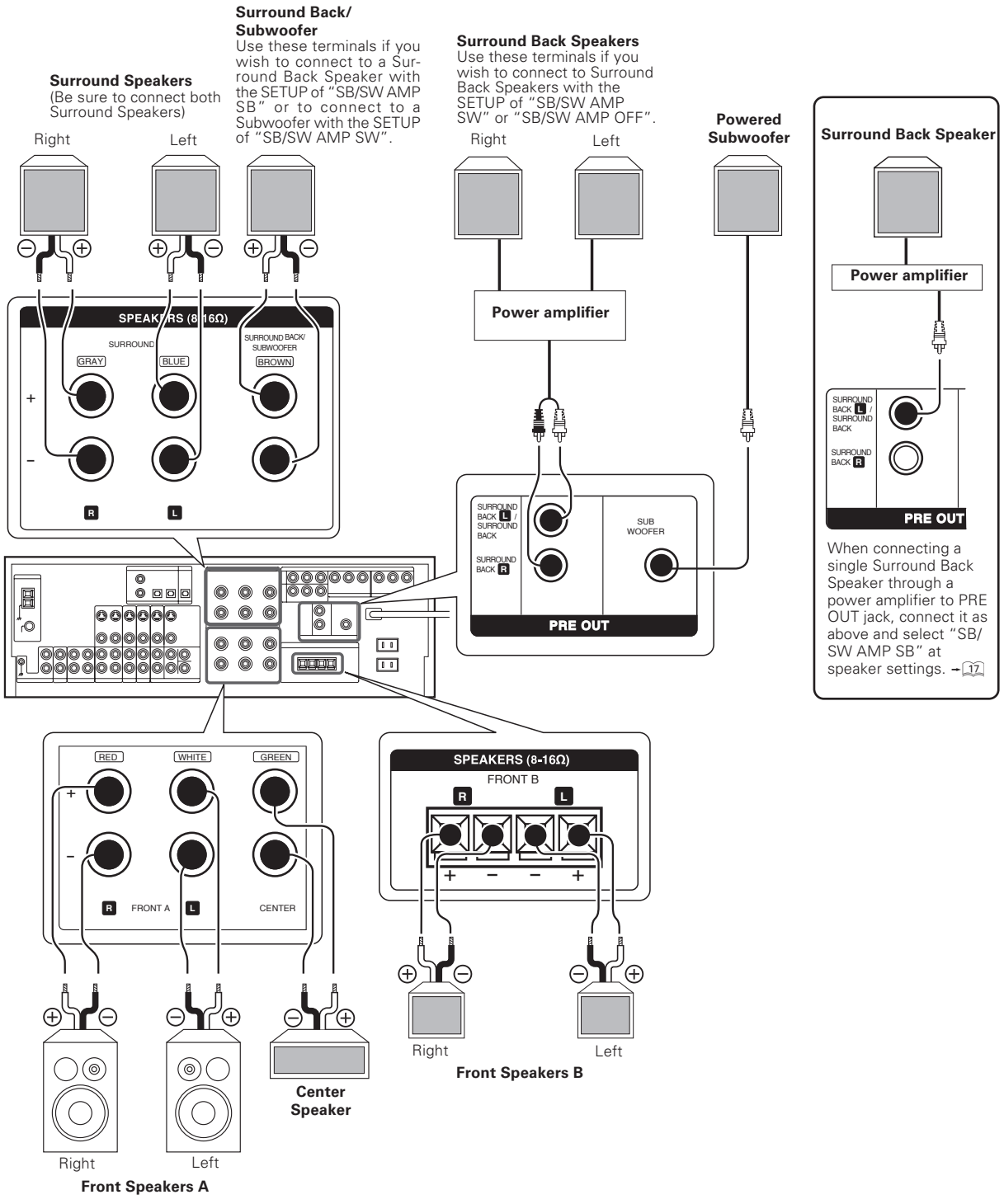
When connecting the TV to the COMPONENT jacks, be sure to connect all the other components to the COMPONENT jacks.

Connecting a DVD player (6-channel input)

If you have connected a DVD player to the receiver with digital connection, be sure to read the "Input mode settings" section carefully. –8



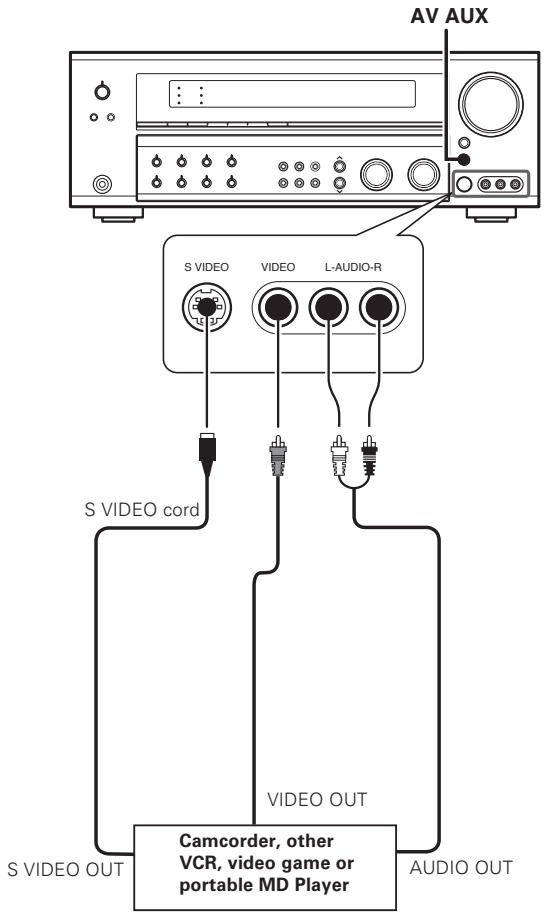
Connecting the speakers



To make sure that each speaker has been connected properly, pay attention to the test tone from each speaker.
Refer to "5 *Adjust the speaker volume level.*" → 18

Connecting to the AV AUX Jacks

The **AV AUX** jacks are convenient for connection of video components such as a camcorder or a video game.



- **To select the source connected to the AV AUX jacks press AV AUX key.** →20
- **When you connect the audio source such as the MD player, you do not need to connect the video cable.**
- **When you connect the unit and the component with the S VIDEO cord, you can get better picture quality.**

Connecting the antennas

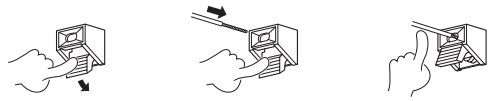
The broadcast reception cannot be made unless the antennas are connected. Connect the antennas correctly as instructed below.

AM Loop Antenna

Place the supplied loop antenna as far as possible from the receiver, TV set, speaker cords and power cord, and adjust the direction for best reception.

AM Antenna Terminal connections

❶ **Push lever.** ❷ **Insert cord.** ❸ **Release lever.**



FM Indoor Antenna

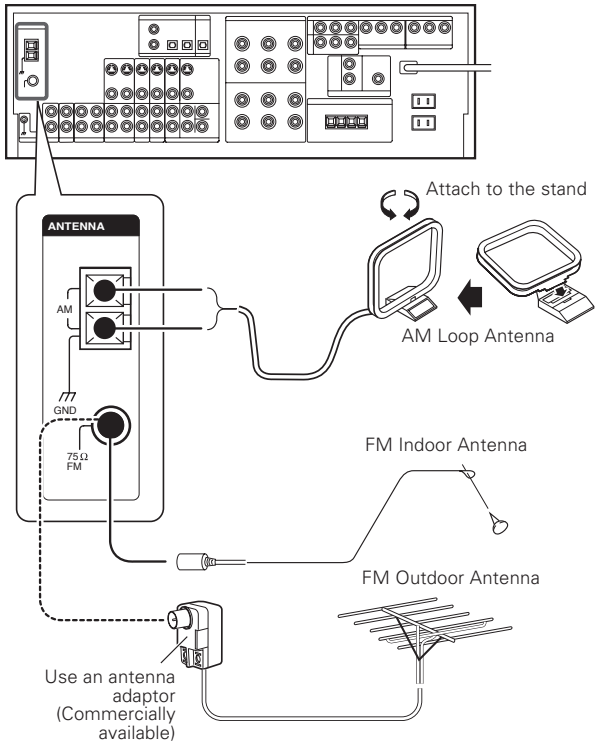
The supplied indoor antenna is for temporary use only. For stable signal reception we recommend using an outdoor antenna. Disconnect the indoor antenna when you connect one outdoors.

FM Antenna Terminal connections

Insert Connector.

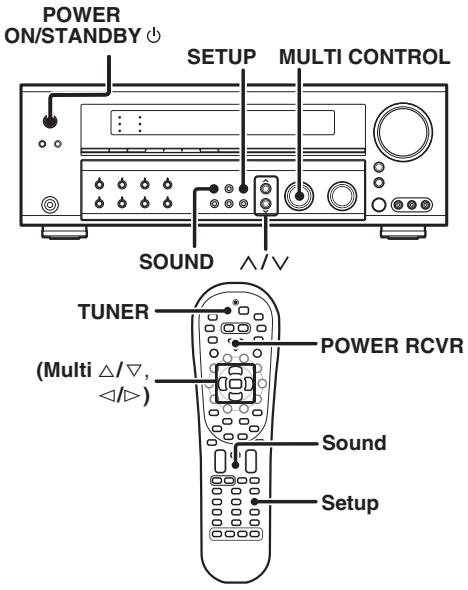
FM Outdoor Antenna

Lead the 75Ω coaxial cable connected to the FM outdoor antenna into the room and connect it to the FM **75Ω** terminal.



Speaker settings

To enable you to obtain optimum enjoyment from the receiver's listening modes, make sure to complete the speaker settings (Subwoofer, Front, Center, Surround and Surround Back Speakers) as described below.



1 ***Turn on the power to this receiver by pressing the POWER ON/STANDBY ⏻ key or POWER RCVR key.***

2 ***For the remote control, press and hold the TUNER key for more than 3 seconds to switch to receiver mode.***

3 ***Press the SETUP key to enter the SETUP mode.***

The Surround Back Speaker and Subwoofer output selections are displayed as follows:

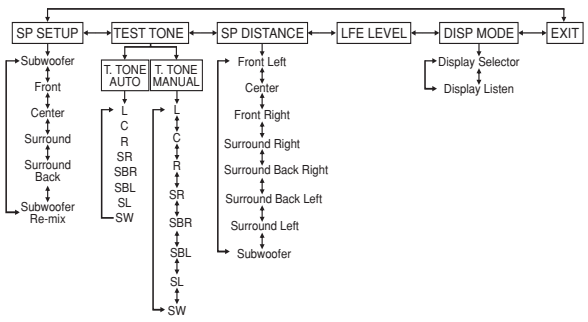
- ① **SB/SW AMP SB** : Surround Back/Subwoofer Speaker terminal will output SB sound. Surround Back pre out will have output from SBL only.
- ② **SB/SW AMP SW** : Surround Back/Subwoofer Speaker terminal will output Subwoofer sound. Surround Back pre out will have output from SBL and SBR.
- ③ **SB/SW AMP OFF** : It is not advisable to use Surround Back/Subwoofer speaker terminal for this selection.

Use the MULTI CONTROL knob or Multi (△/▽) keys to select the speakers.
Press the SETUP key to proceed to the next SETUP selection.

Use ∧/∨ keys or ◁/▷ keys for the following displays.

- ① **SP SETUP**
- ② **TEST TONE**
- ③ **SP DISTANCE**
- ④ **LFE LEVEL**
- ⑤ **DISP MODE**
- ⑥ **EXIT**

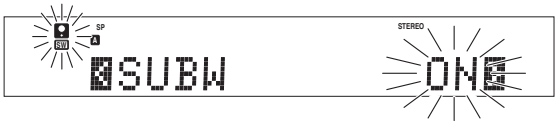
The flow of the SETUP is as follows:



- If you have selected "SB/SW AMP SB", "SBR"/"Surround Back Right" and "SBL"/"Surround Back Left" are not appeared but "SB"/"Surround Back" is appeared on the Display.

4 ***Select a speaker system.***

❶ Select the SP SETUP and press the SETUP key again so that the subwoofer setting indication "SUBW ON" appears.

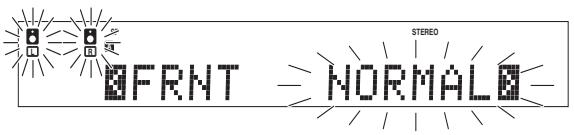


❷ Use the MULTI CONTROL knob or Multi (△/▽) keys to select the appropriate subwoofer setting.

- ① **SUBW ON** : Subwoofer setting mode to the receiver is ON.
- ② **SUBW OFF** : Subwoofer setting mode to the receiver is OFF.

- The initial setting is "SUBW ON".
- When the setting "SUBW OFF" is selected, the Front Speakers are automatically set to "FRNT LARGE" and the procedure skips to step ❺.
  Before step ❺, press the **SETUP** key to accept the setting.
- When Subwoofer output sound is required, select "FRNT NORMAL", or select both "FRNT LARGE" and "SW RE-MIX ON".
- After setting SW (Subwoofer) from OFF to ON, SB/SW AMP setup display will appear to enable you to re-select either SW or SB from the Surround Back Speaker or Subwoofer terminal.

❸ Press the ∧ key or ▷ key to accept the setting.
- The front speakers setting indication "FRNT" appears.



❹ Use the MULTI CONTROL knob or Multi (△/▽) keys to select the appropriate front speakers setting.

- ① **FRNT NORMAL** : Average size Front Speakers are connected to the receiver.
- ② **FRNT LARGE** : Large Front Speakers are connected to the receiver.

- For "FRNT LARGE" selection, no sound will be heard from Subwoofer speaker even when it is set to on. However, if you select "SW RE-MIX ON" when Subwoofer is selected, you will be able to hear sound from the Subwoofer.
  When in STEREO mode, the sound goes directly to Front Speaker.

❺ Press the ∧ key or ▷ key to accept the setting.
- The Center Speaker setting indication "CNTR" appears.

Continued to next page.

❻ Use the MULTI CONTROL knob or Multi (△/▽) keys to select the appropriate Center Speaker setting.

If you selected "LARGE" as the Front Speakers setting,

- ① **CNTR NORMAL** : An average size Center Speaker is connected to the receiver.
- ② **CNTR LARGE** : A large Center Speaker is connected to the receiver.
- ③ **CNTR OFF** : Center Speaker setting mode to the receiver is OFF.

If you selected "NORMAL" as the Front Speakers setting,

- ① **CNTR NORMAL** : An average size Center Speaker is connected to the receiver.
- ② **CNTR OFF** : Center Speaker setting mode to the receiver is OFF.

❼ Press the ∧ key or ▷ key again to accept the setting.
- The Surround Speaker setting indication "SURR" appears.

❽ Use the MULTI CONTROL knob or Multi (△/▽) to select the appropriate Surround Speaker setting.

If you selected "LARGE" as the Center Speaker setting,

- ① **SURR NORMAL** : Average size Surround Speakers are connected to the receiver.
- ② **SURR LARGE** : Large Surround Speakers are connected to the receiver.
- ③ **SURR OFF** : Surround Speaker setting mode to the receiver is OFF.

If you selected other than "LARGE" as the Center Speaker setting,

- ① **SURR NORMAL** : Average size Surround speakers are connected to the receiver.
- ② **SURR OFF** : Surround speaker setting mode to the receiver is OFF.

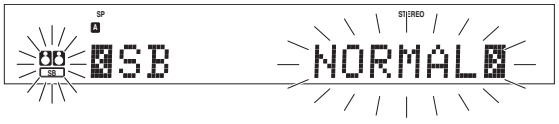
- When the setting "SURR OFF" is selected, the procedure skips to step ⓫.

❾ Press the ∧ key or ▷ keys again to accept the setting.
- The Surround Speaker setting indication "SB" appears.

❿ Use the MULTI CONTROL knob or Multi (△/▽) keys to select appropriate Surround Back Speaker setting.

If you selected "LARGE" as the Surround Speaker setting,

- ① **SB NORMAL** : Average size Surround Back Speaker is connected to the receiver.
- ② **SB LARGE** : Large Surround Back Speaker is connected to the receiver.
- ③ **SB OFF** : Surround Back Speaker setting mode to the receiver is OFF.



If you selected "NORMAL" as the Surround Speaker setting,

- ① **SB NORMAL** : Average size Surround Back Speaker is connected to the receiver.
- ② **SB OFF** : Surround Back Speaker setting mode to the receiver is OFF.

- After setting SB (Surround Back) from OFF to NORMAL, SB/SW AMP setup display will appear to enable you to re-select either SW or SB from the Surround Back Speaker or Subwoofer terminal.

⓫ Press the ∧ key or ▷ key again to accept the setting.
- The Subwoofer remix setting indication "SW RE-MIX" appears.

⓬ Use the MULTI CONTROL knob or Multi (△/▽) keys to select the appropriate Subwoofer re-mix setting.

- ① **SW RE-MIX ON** : Subwoofer re-mix setting mode to the receiver is ON.
- ② **SW RE-MIX OFF** : Subwoofer re-mix setting mode to the receiver is OFF.

- If Subwoofer is turned off, Subwoofer re-mix setting is not visible.

⓭ Press the SETUP key again to return to the main setup displays.

5 *Adjust the speaker volume level.*

From your usual listening position, adjust the volume levels. The volume levels from each speaker should be the same.

- The receiver enters the speaker volume level adjustment mode.
- Indicators appear only for the channels of the speakers selected in step 4.

❶ Press the ∧/∨ keys or ◁/▷keys to select TEST TONE.

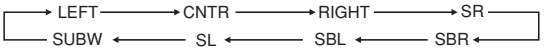
❷ Press the SETUP key for the following displays:

- ① **T.TONE AUTO**
- ② **T.TONE MANUAL**

❸ The selection of AUTO/MANUAL TEST TONE is done by the MULTI CONTROL knob or Multi (△/▽) keys.
Press the SETUP key again to begin TEST TONE.

Use the MULTI CONTROL knob or Multi (△/▽) keys to adjust the volume level of the test tone output from the speaker channel to be adjusted.

For AUTO selection, the first test tone is heard from the front left speaker for 2.5 seconds. The next test tone is heard from the speakers in the following sequence for 2 seconds each.



The channel indication blinks while the test tone is being output.

- If you have selected "SB/SW AMP SB", "SBR" and "SBL" are not appeared but "SB" is appeared on the Display.
- If you change the volume level settings for the speakers while listening to music, the settings referred to on this page are also changed. →30
- If the speaker setting selects are OFF, the speaker level settings are reset.

For MANUAL selection, press the ∧/∨ keys or ◁/▷ keys each time to select the speaker channel.

❹ Press the SETUP key again.
- The test tone is turned off and return to the main setup displays.

6 *Input the distance to the speakers.*

- Indicators appear only for the channels of the speakers selected in step 4.

❶ Press the ∧/∨ keys or ◁/▷ keys to select the SP DISTANCE on setup displays and press the SETUP key again.

❷ Measure the distance from the listening position to each of the speakers.

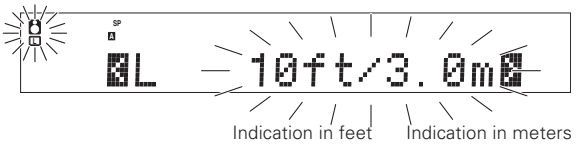
Jot down the distance to each of the speakers.
Distance to Front Left Speaker (L) : ____ feet (meters)
Distance to Center Speaker (C) : ____ feet (meters)
Distance to Front Right Speaker (R) : ____ feet (meters)

Distance to Surround Right (SR) : ____ feet (meters)
Distance to Surround Back Right (SBR) : ____ feet (meters)
Distance to Surround Back (SB) : ____ feet (meters)
Distance to Surround Back Left (SBL) : ____ feet (meters)
Distance to Surround Left (SL) : ____ feet (meters)
Distance to Subwoofer (SW) : ____ feet (meters)

- If you have selected "SB/SW AMP SB", "SBR" and "SBL" are not appeared but "SB" is appeared on the Display.

❸ Use the ∧/∨ keys or ◁/▷ keys to select the speakers and the MULTI CONTROL knob or Multi (△/▽) keys to adjust the distance to the Front Speakers.

The speaker indicator to be adjusted blinks.



Indication in feet Indication in meters

- The allowable setting range is 1 to 30 feet (0.3 to 9.0 m), adjustable in 1 foot (0.3 m) increments.

❹ Repeat steps ❸ to input the distance for each of the speakers.

❺ Press the SETUP key again to return to main setup displays.

- The speakers you have selected should appear on the display. Confirm that all the speakers have been correctly selected.

7 *Adjust the LFE LEVEL (Low Frequency Effects).*

❶ Select the LFE LEVEL from the setup displays and press the SETUP key again.

❷ Use the MULTI CONTROL knob or Multi (△/▽) keys to adjust the LFE LEVEL.

- The LFE LEVEL can be adjusted from 0dB to -10dB in 1dB decrements.

❸ Press the SETUP key again to return to main setup displays.

8 *Select the display mode.*

❶ Press the ∧/∨ key or ◁/▷ keys to select the DISP MODE.

❷ Press the SETUP key for the following displays:

① **DISP SELECTOR** : Displays the current input selector.
② **DISP LISTEN** : Displays the current listen mode.

❸ Use the MULTI CONTROL knob or Multi (△/▽) keys to select the display mode.

❹ Press the SETUP key again to accept the setting.

❺ Use the ∧ key or ▷ key to select EXIT.

❻ Press the SETUP key to exit the SET UP mode.

Input level adjustment (analog sources only)

If the input level of an analog source signal is too high, the CLIP indicator will light up to indicate the source signal. Adjust the input level.

❶ Use the Input Selector keys to select the source of which the input level you want to adjust.

- You can store a separate input level for each input source.

❷ Press the SOUND and ∧/∨ keys or ◁/▷ keys repeatedly until the "INPUT" indication appears.

❸ Use the MULTI CONTROL knob or Multi (△/▽) keys to adjust the input level.

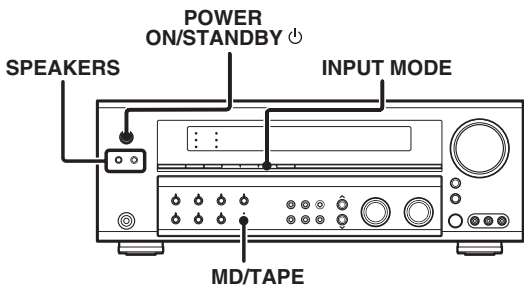
- The adjustment mode is displayed for approximately 20 seconds.
- The input level may be adjusted to any one of three settings: 0dB, -3dB, and -6dB. (The initial setting is 0dB.)

❹ Press the SOUND key again to return to the input indication.

Normal playback

Preparing for playback

Some preparatory steps are needed before starting playback.



Turning on the receiver

❶ Turn on the power to the related components.

❷ Turn on the power to this receiver by pressing the POWER ON/STANDBY ⏻ key.

Selecting the input mode

If you have selected a component connected to the **CD/DVD, VIDEO 2, VIDEO 3** or **DVD/6CH** jacks, make sure that the input mode setting is correct for the type of audio signal to be used. –8

Selecting MD/TAPE

Select the source name corresponding to the component connected to the MD/TAPE jacks. The initial factory setting is "**TAPE**". To change the source to "**MD**", follow the steps below:

Hold down the MD/TAPE key for more than 2 seconds.

- The source indication changes to "**MD**".
- To return to the original indication, repeat the above procedure.

Selecting the speaker system

Press the SPEAKERS keys to select the speaker system to be used.

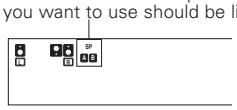
A ON : Sound from the speakers connected to the **SPEAKERS A** terminals on the rear panel.

B ON : Sound from the speakers connected to the **SPEAKERS B** terminals on the rear panel. No sound will be heard from the subwoofer.

A+B ON : Sound from both the speakers connected to the **SPEAKERS A** and **B** terminals on the rear panel.

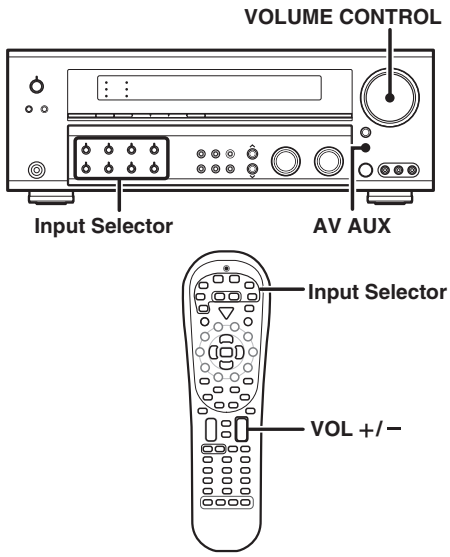
A+B OFF : No sound from the speakers. Use this setting when listening with headphones for stereo sound in all playback modes. The display segments are different depending on the type of input signal.

The indicator for the speakers you want to use should be lit.



- Selecting "6CH INPUT" by pressing the **INPUT MODE** key, whereby "DVD/6CH" is the input source will cause **SPEAKERS A** to be selected automatically.

Listening to a source component



❶ *Use the Input Selector and AV AUX keys to select the source you want to listen to.*

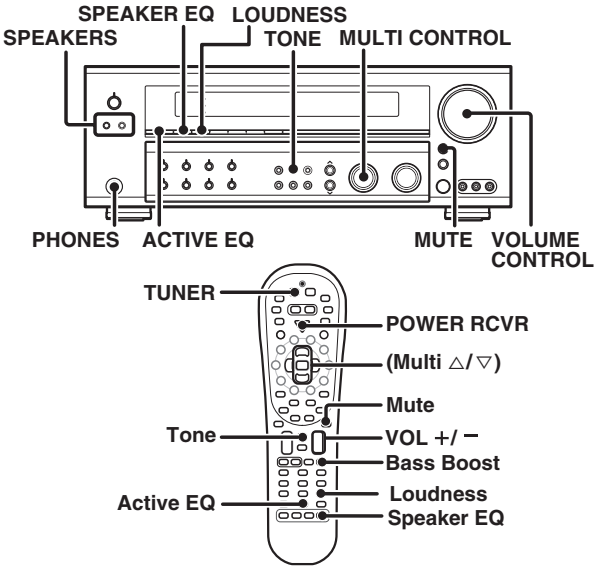
Selecting a source using each key.

① **"DVD/6CH"**
② **"CD/DVD"**
③ **"PHONO"**
④ **"TUNER"**
⑤ **"VIDEO 1"**
⑥ **"VIDEO 2"**
⑦ **"VIDEO 3"**
⑧ **"MD/TAPE"**
⑨ **"AV AUX"**

❷ *Start playback from the selected source.*

❸ *Use the VOLUME CONTROL knob or VOL +/– keys to adjust the volume.*

Adjusting the sound



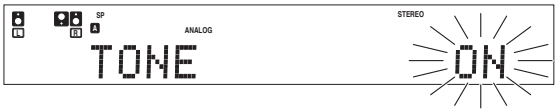
Adjusting the TONE

You can adjust the sound quality when the receiver is in the PCM stereo and analog stereo mode.

❶ **For the remote control, press and hold the TUNER key for more than 3 seconds to switch to receiver mode.**

❷ **Press the TONE key to select the TONE mode.**

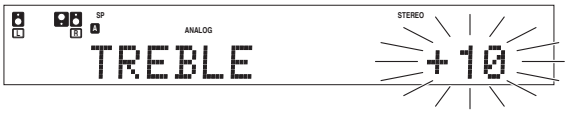
❸ **Use the MULTI CONTROL knob or Multi (△/▽) keys to select TONE ON/OFF.**



❹ **When in TONE ON selection, press the TONE key for the following displays.**

BASS : Select this to adjust the low frequency range.
TREBLE : Select this to adjust the high frequency range.

❺ **Use the MULTI CONTROL knob or Multi (△/▽) keys to adjust the sound quality.**



- The bass and treble levels are adjustable from -10 to +10 in 2 step increments.
- The adjustment item is displayed for approximately 20 seconds.
- This function is available only for speakers connected to FRONT A terminals.

Once-touch low frequency emphasis (BASS BOOST) (remote control only)

You can adjust the sound quality when the receiver is in the PCM stereo and analog stereo modes.

Press the Bass Boost key.
- Press the key once to select the maximum (+10) low frequency emphasis setting.
- This key does not function when the receiver is in the sound quality or ambience effects adjustment mode.
- This function is available only for speakers connected to FRONT A terminals.

Switching back to the previous setting

Press the Bass Boost key again.

Adjusting the LOUDNESS mode

You can adjust the Loudness function which controls the low volume settings to maintain the music's richness. The adjustment can be made when the receiver is in the PCM stereo and analog stereo mode.

Press the LOUDNESS key to turn the LOUDNESS setting ON.
- This function is available only for speakers connected to FRONT A terminals.

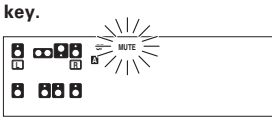
To cancel

Press the LOUDNESS key again so that the "LOUDNESS" indicator goes off.

Muting the sound

The **MUTE** key lets you mute the sound of the speakers.

Press the MUTE key.



Blinks

To cancel

Press the MUTE key again so that the "MUTE" indicator goes off.
- MUTE ON can also be deactivated by turning the VOLUME CONTROL knob or pressing VOL +/– keys.

ACTIVE EQ mode

You can enjoy a more impressive sound effect when ACTIVE EQ is turned ON.

Press the ACTIVE EQ key for the following selections;

① **ACTIVE EQ MUSIC** : Effective when listening to music. (The ACTIVE EQ indicator lights up.)
② **ACTIVE EQ CINEMA** : Effective when watching a movie. (The ACTIVE EQ indicator lights up.)
③ **ACTIVE EQ TV** : Effective when watching TV. (The ACTIVE EQ indicator lights up.)
④ **ACTIVE EQ OFF** : The ACTIVE EQ function is turned OFF. (The ACTIVE EQ indicator goes off.)

- "ACTIVE EQ" will scroll from right to left.
- ACTIVE EQ function will not be available when REC MODE, AUTO TUNING or PRESET MEMORY is ON.

SPEAKER EQ mode

SPEAKER EQ function is to adjust the receiver's audio output characteristics with the speakers' characteristics which differs depending on the size of the speakers. When activating the SPEAKER EQ function, you will be able to enjoy a more natural and dynamic sound experience even with small size speakers.

Press the SPEAKER EQ key to switch the following setting;

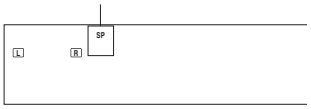
① **SPEAKER EQ SMALL** : To select a small size speaker. (The SPEAKER EQ indicator lights up.)
② **SPEAKER EQ MEDIUM** : To select a medium size speaker. (The SPEAKER EQ indicator lights up.)
③ **SPEAKER EQ OFF** : The SPEAKER EQ function is turned OFF. (The SPEAKER EQ indicator goes off.)

- "SPEAKER EQ" will scroll from right to left.
- SPEAKER EQ function will not be available when REC MODE, AUTO TUNING or PRESET MEMORY is ON.
- SPEAKER EQ function will not be available when "**LARGE**" is selected for Front Speaker at the speaker settings.

Listening with headphones

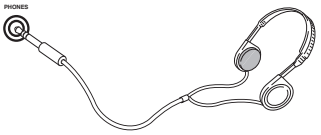
❶ **Press the SPEAKERS keys so that the speaker indicator goes off.**

Make sure the SPEAKERS indicators are turned off.



- If you turn off all of the speakers when in surround mode, the surround mode will be canceled as well, resulting in stereo playback.

❷ **Connect headphones to the PHONES jack.**



❸ **Use the VOLUME CONTROL knob or VOL +/– keys to adjust the volume.**